

Curricular accounting, and standards and equivalence of university-student learning

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Abstract

Accounting figures variously in New Higher Education. However, despite their infant precursors having been labelled *curricular accounting* (see Theodossin, E. (1986), *The Modular Market*, Further Education Staff College, London), accounting researchers have overlooked calculative practices, processes, records and associated means of measuring, recording and reporting university-student learning. The means in question comprise credit, credit points, levels of learning, level descriptors, learning outcomes, and related characteristics of course catalogues, qualification frameworks, credit transfer systems and student records, transcripts and diploma supplements. The former University of New Zealand and its affiliate in Christchurch, New Zealand, and Te Whare Wānanga o Waitahā, also of that city, are used as a case study. This paper provides a retrospective analysis to illuminate how curricular accounting about university-student learning has reflected and constituted standards and equivalence of this learning, not only at the case study site but across tertiary education in many countries.

Keywords Social and institutional non-financial accounting, Curricular accounting, Higher education, Qualities of learning and credit, Genealogy, Path dependency.

Introduction

Credit is used frequently in higher education to refer to learning that, having been assessed as above specified standards, counts towards a student's qualification. In recent decades, in the Asia-Pacific region and internationally, credit has become accounted for using various calculative practices, processes, records and associated means. Among these practices, the most obvious feature is credit points, which are purported to quantify volumes of learning entailed in courses and qualifications. Other features are levels of learning, level descriptors and learning outcomes, including means of measuring achievement of these outcomes and recording the results of this measurement or assessment: these are purported to indicate qualities of learning. These means are now important within individual institutions, across institutions within the same national higher education system or tertiary education system, and across several such systems. Examples of the latter include the Credit Accumulation and Transfer Scheme/System (CATS), which originated in Scotland; the European Credit Transfer Scheme (ECTS), which having been developed to aid international credit transfer within Europe (see Adam, 2001), has been gradually displacing individual country systems of credit accumulation; and the Student Credit hour System, which is in wide use in North American systems and pre-dates CATS and ECTS by at least several decades (Butler and Hope, 2000). Use of the means in question is evident in, among other things, qualification regulations, course catalogues, student transcripts and diploma supplements, credit transfer systems and qualification frameworks (e.g. "ECTS user guide", 2009; European Commission, 2009a, 2009b). A moot question is whether the means in question represent new accounting practices, which might be labelled *curricular accounting* (Dixon, 2009; Theodossin, 1986). Without prejudice to this question, the shorthand "curricular accounting" is used hereafter to refer to these means.

A study has been conducted to examine the growth in importance and consequences of curricular accounting at a particular institution and in the context of its national setting and international dealings. The institution is now known variously as te Whare Wānanga o Waitahā and the

University of Canterbury (UC). It is located in Christchurch, the main centre of Canterbury Province, whose government was involved in establishing it as Canterbury College in 1873, making it one of New Zealand's oldest higher education institutions. This paper is drawn from this study of curricular accounting and the elements it now encompasses. It focuses on how and why these elements and this accounting have been devised in order to mirror and measure standards/qualities and equivalence of university-student learning, including its teaching and assessment; and how and why standards and equivalence of university-student learning have been shaped and formed by these elements and this accounting.

The purpose of this retrospective analysis is illumination, not only at the case study site but across tertiary education in many countries. The curricular accounting presently used at the institution in question is aligned with those used in the other seven New Zealand universities and bears striking similarities to CATS used widely in Scotland, England (although seemingly not at either Oxford or Cambridge) and elsewhere. How it functions within UC and in its educational and administrative environs is elaborated elsewhere (see Dixon, 2009). In essence, it is bound up with awarding qualifications, and staging courses and programmes of study. It helps specify a representational scheme among such matters as regulating and awarding qualifications, designing and controlling learning and teaching, providing order and control among students and academics, and regularising policy and financial relations between UC and external agencies, including New Zealand Qualifications Authority (NZQA), the Committee on University Academic Programmes (CUAP) of the New Zealand Vice-Chancellors' Committee (NZVCC) and the Tertiary Education Commission (TEC).

At base is a system that came into operation at UC in 2006. Credit is awarded at levels that correspond with Level 5 and above in the New Zealand National Qualifications Framework (see the 10 levels set out in Figure 1). Students enrol on courses, which each have a level and points value. These particulars appear on student records, which accumulate from when they first enrol. Course design is claimed to reflect and be reflected in point values and levels, and in turn these have some

meaning in academic audit and quality assurance procedures. The tuition fees that students pay themselves or have paid for them by the Government of New Zealand (hereafter “the Government”) through StudyLink depend on the subject of the course, and on the level and points values (StudyLink, 2010); the same applies to the Government grant received through Student Achievement Component funding, which is calculated from numbers of equivalent full-time students (EFTSs) studying courses towards qualifications (TEC, 2010a, 2010b). Entitlements of domestic students to allowances and loans from StudyLink depend on the numbers of points being studied, in particular to distinguish full-time students from part-time students, and to distinguish whether sufficient study is being undertaken to qualify at all for financial assistance. At its inception, the system was called the *360 point degree system* because the regulations for a bachelor degree of three years’ full-time duration (e.g. Bachelor of Arts (BA), Bachelor of Commerce (BCom.)) stipulate that to graduate a student must complete courses whose total credit is at least 360 points (see UC, 2004, Minute 7). Now, it is widely referred to as just the *points system*.

[INSERT ABOUT HERE FIGURE 1 New Zealand National Qualifications Framework (Source: NZQA, 2007; UC, 2007)]

In the rest of the paper, various relevant literatures are reviewed in the next section; and the one after provides more information about method. Subsequently, the main body of the paper deals with particular aspects of curricular accounting, standards and equivalence over time, culminating in issues that are contentious now. The conclusions at the end are accompanied by suggestions for further research.

Literature Review

The several ideas reviewed comprise accounting as an expanding, social and institutional practice; associations between credit point systems and the term “accounting”; universities as socio-political organisations; and a dynamic perspective about how social order evolves among organisational participants. These elaborations provide further context for the study, help explain the way it was

conducted and how the analysis has been carried out, and facilitate discussion of the standards and equivalence part of the analysis in order to extend the literature.

The significant extension of accounting in the functioning of modern industrial (and now global) societies, including possibilities of new accounting practices emerging during changes to patterns of organisational visibility, is discussed by Burchell, Clubb, Hopwood, Hughes and Nahapiet (1980). This extension has been equally rampant in public services, including in higher education (e.g. Broadbent and Guthrie, 2008; Coy, Dixon, Buchanan and Tower, 1997; Coy and Goh, 1993; Coy and Pratt, 1998; Dixon and Coy, 2007; Kelsey, 1997; Lord, Robb and Shanahan, 1998; Pollitt and Bouckaert, 2004; Robb, Shanahan and Lord, 1997). It is generally accepted that this extension has accompanied a variety of social and institutional changes in higher education, for which the phrase New Higher Education has been coined (Trowler, 2001); and arguably has helped bring about these changes (e.g. see Larner and Le Heron, 2005; Nagy and Robb, 2008).

Terms such as massification, diversification and differentiation have been invoked to characterise these social and institutional transformations in higher education (e.g. see Altbach, Reisberg and Rumbley, 2009; Demeulemeester, 2009), the most obvious of which have included the following. Numbers of students have risen significantly and participation rates are several-fold greater than even a generation or so ago, let alone between the 21st century and the 19th century. Numbers of institutions providing higher education have also risen, and there are far more institutions calling themselves universities, or otherwise having degree-granting powers, or who have been accredited to teach and examine students for degrees conferred by other degree-granting institutions or bodies. Huge branching out has occurred in disciplines and subjects. Degree and other awards have broadened and have become more modular and accommodating of student choices. This has led to customisation in knowledge and skills coverage. There has been some national and international integration of qualifications, making it more possible for students to gain a qualification through study with more than one institution and in more than one country. Consequently, students have become more mobile and more knowledgeable of higher education as a market. Fees levied on

domestic students entitled to subsidised study have increased relative to government grants and as a proportion of the revenues of universities and other tertiary institutions. Those fees, the equivalent charged by institutions to foreign and other students whose fees are calculated to recover full costs, and significant proportions of grants that institutions receive from governments are linked more closely to an individual student enrolling for a specified course (e.g. re Colombia, see Restrepo (2008); re New Zealand, see Boston (1988, 1996), Larner and Le Heron (2005), and McLaughlin (2003); re Norway, see Pettersen and Solstad (2007); re United Kingdom, see Deem (2004), and Deem and Brehoney (2005)).

These social and institutional transformations in higher education can be identified with propositions made by Burchell et al. (1980) about accounting practices enabling the emergence of organisational forms with many interdependencies that make them increasingly complex. The practices in question have made it possible for operating information to be relayed around the networks that characterise these organisational forms; for some people to measure and evaluate other people according to set priorities and expectations in relation to divisional and product performance; and for reports and such like to be distributed according to legal and regulatory requirements, administrative needs and market expectations. As alluded to above, Burchell et al. call attention to patterns of organisational visibility being changed, which in turn affect organisational participants' perceptions of the problematic and the possible in wide ranging matters of managerial, organisational and, by inference, service practice, giving rise to changes in these. They also raise the new accounting practices that emerge during these changes creating further possibilities for change.

To use instances in existing literature of where curricular accounting is linked with accounting provides ideas on which to build the analysis of curricular accounting as a practice. Theodossin (1986) is concerned with curricular accounting in England. He was familiar with modular/credit courses because of their popularity in his American homeland since the second half of the 19th century. There, they had been intended as “breaking the stranglehold of the [Oxbridge-inspired]

classical curriculum” (p. 5) but had had the significant consequence of a “curricular free-for-all” (p. 5), which was thought to undermine standards, and so was eventually checked by introduction of “a system of ‘concentration and distribution’” (p. 7) involving majors and minors. He noted the emergence of these courses in some English universities and polytechnics from the 1960s; and in coining the name *curricular accounting*, was discussing the credit system as it was developing in Britain in the 1970s and early 1980s. However, that he used this name in 1986 is probably surprising because, although under development, CATS then was still some way from the CATS that Trowler (1998) reports as being widely used in British higher education, most significantly that the arithmetic of the system’s credit points did not materialise and gain widespread acceptance until the late 1980s and 1990s (Allen, 1995). Two things that arithmetic facilitated are student study being recorded not only by module, as Theodossin discusses, but also in a common currency of points and levels within and across higher education institutions; and the value of each person’s study being accumulated over an extended period, to provide what Adam (2001) refers to as “lifelong learning accounts” (p. 302).

In seeming to imply that Theodossin (1986) saw CATS merely as bookkeeping among higher education institutions and then taking issue with that, Raban (1990) elaborates on potential ramifications of this and schemes like it and on meanings that they can inspire, considering issues around valuation as well as accumulation and exchange, and noting that CATS has been “a powerful catalyst for change in higher education (in England)” (p. 26), for example, aiding “the (English) Government’s attack on elitism and restrictive practices of the universities” (p. 26).

Bekhradnia (2004), in also using the word *accounting*, provides further elaboration and discussion. Although these do not refer to curricular accounting as such, they are concerned with how curricular accounting or specific characteristics of it have consequences for higher education and those participating in it. These items are also incorporated in the discussion of the analysis. A further significant contribution from Restrepo (2008) illuminates how the introduction of credit systems can transform the governance and management of a university, change environmental relationships,

and inspire “radical changes in terms of curriculum design, educational structure and content, provision (delivery) of education, the learning process and its assessment” (2008, p. 11), the actual changes possibly being more extensive than those planned.

Otherwise, despite a few decades during which curricular accounting ideas have spread far and wide, as evidenced by a significant volume of official literature, both at policy level (e.g. Bologna Working Group on Qualifications Frameworks, 2005; NZQA, 2008) and organisational level (e.g. Open University, 2005), scholarly literature is thin on the ground. It seems either limited to sharing experiences and improving method and technique at ground level (e.g. Dillon, Reuben, Coats and Hodgkinson, 2007; Greatorex, 2003), or about making and implementing policy at national level (e.g. Young, 2008).

To analyse genealogically how and why curricular accounting has come about in universities is in some ways to analyse universities as organisations and their place in society. The literature on this is extensive. In a review of English-language literature mainly from the United States of America (USA) and Britain, Patterson (1990) concludes that how theorists portray universities varies widely, in attempts to understand their idiosyncrasies and complexities. These include political control theories, of which two were identified during the course of the study as being suitable to inform subsequent activities and analysis, namely, *negotiated order* and *path-dependence* theories. In general, political control functions through knowledge structures and negotiation processes (Rahaman and Lawrence, 2001). These theories are usually associated with attempts to explain such conditions and behaviour as intermittent engagement in decision processes, fragmentation into interest groups with different goals and values, lobbying, stratagems, subterfuge, tactics, coalition forming, inconsistency, and competition for resources. However, political control is a constant in situations where conflicting values exist alongside exercising subjectivity, among other things, to distribute scarce resources (Hofstede, 1981) (see also Patterson, 1990).

The inherent political nature of universities is apparent in times of crises of legitimacy for disciplines/subjects, departments and other units, whole universities or entire university systems, when disagreements about purposes, objectives and actions must be dealt with (for a New Zealand example, see Coy and Pratt, 1998). However, this nature is equally present at other times, when university participants exhibit cooperation, compromise, negotiation, bargaining and exchange, coalition forming, fluidity, diffusion of authority, decisions and actions, and coordination based on interaction, consensus and beliefs. Through these means, ambiguity of purposes, objectives and actions is dealt with in less conflictual and more collegial ways. Thus, political theories explain their more usual state, and so explain their general dynamic state, as encompassing negotiated order, founded on organisations being constructed socially through interactions of social actors, during which conflict arises sporadically.

The idea that social order among organisational participants is the consequence of recent negotiations, which are themselves dependant on previous social orders and past negotiations among participants, is examined by Rahaman and Lawrence (2001). They attribute the idea to how participative mechanisms of social change were incorporated in the structure of democratic societies as they came to be known in various places during the 20th century. Negotiations in organisational settings became a central element in organising and controlling behaviour occurring in these settings. Interactions arise within an organisation's legally demarcated boundary and outside it. At any one time, the extant order is both internal and external to the organisation, giving rise to possibilities not only of mapping it as a representational logic or scheme (see Dillard, Brown and Marshall, 2005) of activities, events, behaviour and values, but also of recognising the order as transient, on a trajectory from a previous negotiated order, through the present order and to a next order.

Changes in order comprise the organisation's history, during which it is an arena of cooperation and conflict. The changes are of various magnitudes and derive from negotiations conducted among all the social actors and their groupings albeit on unequal footings. How and why interactions transpire

reflect both the interests that these social actors have across time in the organisation and other organisations and social units, and the differences in knowledge and influence of these actors, which will vary as a result of previous negotiations and the social order arising out of them. The structural contexts within which interactions occur are a product of the negotiated order, and so are as inconstant and transient as other aspects of the socially constructed organisations. So too are the rules and procedures of organisational functioning, and the representational scheme. While interactions and negotiations lead to potential inconstancy and transience, that they are carried out by persons whose involvement in the organisation is usually medium to long term gives rise to whatever transpires at particular moments having major lasting influence.

This last point resonates with path dependence theory for analysing changes. According to Jacobs, Jones and Modell (2007), as changes are made, participants' perceptions of existing structures, processes and related matters condition the choices that are inherent in the changes that are made, and so past structures, processes and related matters have a major and lasting influence on those that follow from time to time. Thus, the new derives from and in part incorporates what went beforehand; and what went beforehand constrains how and why structures, processes and the like develop, and in doing so other possible and probably more radical trajectories are precluded. Change analysed from a path dependence stance therefore tends to be more evolutionary than revolutionary; and it tends to be more muddled with mixes of the desired and the compromised, not to mention the intended and unintended. As Jacobs et al. point out, path dependent change is more likely to occur if existing structures, processes and related matters have a tendency to determine individual and collective expectations and adaptations. There is a greater likelihood of existing ones being retained than there is of completely new alternatives being put in their place, but the retained ones are likely to be in a modified form, so as to obtain the advantages sought from making changes in the first place (e.g. to reduce occurrences that are problematic). Modified existing forms will be especially preferred over new alternatives if the latter are matters of dispute and their success is uncertain (see also Greener, 2005; Kay, 2005; Mahoney, 2000).

To see these ideas and related ones in action, Jacobs et al. (2007) argue that a longitudinal perspective must be adopted: by carrying out a retrospective analysis of an extant social order one should be able to induce a pattern of dependence of that order on previous orders. Such a retrospective analysis is predicated on the idea that “Placing politics in time – systematically situating particular moments (including the present) in a temporal sequence of events and processes – can greatly enrich our understanding of complex social dynamics” (Pierson, 2000, p. 72), and is often associated with the maxim *History Matters*, for which, as Pierson points out, answers to the questions of why, where and when are vital. Thus, how structures, processes and related matters evolve and influence each other over time is vital to the analysis. Expectations are that emergent alternatives will be incorporated into existing structures if they do not generate much conflict between actors with vested interests in various alternatives; and that emergent alternatives, if adopted effectively, become more consistent with established practices, and so manifest an apparent tendency of path dependent change.

Method

Retrospective analysis is about informing the present and future of social orders by investigating temporal processes associated with their emergence up to the present day. This concern for informing arose from occurrences at UC during 2007 to 2010, where and when the researcher was a participant-observer. During this period, much debate, manoeuvring, conflict and negotiation occurred among staff and representatives of students, including on faculty and university level academic committees, over credit points, learning outcomes and similar. For example, proposals were approved for all courses to be of a common size of 15 points or multiple of 15 points, and for there to be a common graduate profile for all majors and endorsements of the BCom. degree. During these debates, much ad hoc evidence was observed that among the various participants there were significant variations in the meanings being read into credit points, levels of learning, learning outcomes, teaching and assessment, and of significant disparities of how these are interrelated

compared to official pronouncements such as UC (2008) and literature such as Dillon et al. (2007). It was these circumstances that led the researcher to embark on a study, although it was not until he stumbled upon the term *curricular accounting* during a Google ScholarTM search that the idea for an accounting study began to crystallise.

Having espied the possibility of regarding curricular accounting as a new accounting practice, and one that has emerged alongside changes to patterns of visibility in higher education, the researcher adapted suggestions by Burchell et al. about questions on which to focus lines of inquiry in such circumstances, namely: How does what might arguably be labelled *curricular accounting* function officially at UC in 2009? How has it emerged and developed and who has been involved and what issues shaped it? How has it become intertwined with other aspects of life; and what consequences have arisen? (see Burchell et al. 1980, especially p. 23). Thus, although, as indicated above, credit systems elsewhere have already been examined by others (e.g. Adam, 2001; Allen, 1995; Bekhradnia, 2004; Butler and Hope, 2000; Restrepo, 2008; Theodossin, 1986; Trowler, 1998), this paper and the study from which it is drawn is original in taking an accounting approach and treating the inquiry as accounting research, as well as in taking more than a cursory interest in the actual calculative practices.

Furthermore, the second of the three questions is in keeping with the argument rehearsed above from Jacobs et al. (2007) and Pierson (2000), and with similar demands for longitudinal examinations of practices (i.e. in this case, curricular accounting at the institution that is now UC) to show and appreciate that elements of the present form and usage of practices have emerged from historical social conditions (i.e., in this case, the various people involved in this institution over its entire life, and the issues with which they were concerned). Thus, the origins of the ideas underpinning UC's present curricular accounting have been traced genealogically back through UC's formal inception in 1958 and thence to its forerunners, namely, Canterbury University College (1933-1957) (hereafter "the University College") and Canterbury College (1873-1932) (hereafter "the College"), and the University of New Zealand (UNZ) (1870-1961). The purpose is to

provide an analysis that would be illuminating, and so suitable, for example, to inform those practising curricular accounting, or who are called on to extend or change this accounting, or who are considering how this accounting might change in future (re this purpose and mode of analysis, see Foucault, 1975, 1994; Kearins and Hooper, 2002; Miller and Napier, 1993).

Regarding process, the lines of inquiry listed above were pursued simultaneously, guided by the above purpose. Initially, a rounded description was composed of the extant system and how it had come about chronologically. Then, a further, genealogical analysis was carried out in order to understand present curricular accounting practices as an accumulation of various contingent turns of history. The researcher sought out these turns, the details and accidents associated with how and why present practices developed; the conditions arising from time to time that made the changes possible, and the social interactions, negotiations and constrictions that were entailed among actors involved in or influencing UC practices. Specific interest was taken in the often disputed meanings that various protagonists ascribed to the circumstances from which elements of curricular accounting emerged. As indicated above, these turns were expected to illuminate how practices changed and could change again (Foucault, 1975, 1994). While genealogical modes of analysis are usually ascribed to Foucault, using his modes of analysis does not necessarily mean using his theories. Instead, *path dependence* and *negotiated order* theories, which are outlined above, were used to structure the report of the genealogical analysis, and they have been carried through into the formatting of the analysis in this paper.

The various documentary sources of evidence drawn on by the researcher include the Calendars of UC and of its forerunners, published annually since 1873; and the equivalents for UNZ. He examined specimens of student records held at UC and dating back to 1873. He perused other official documentary evidence in such forms as recorded proceedings of meetings of university and college committees; and reviews of the New Zealand university system carried out by agencies of the Government (e.g. University Grants Committee (UGC) Review Committee, 1982).

Conventional histories of UNZ (Parton, 1979) and to mark the 50th anniversary (1923) (Hight and

Candy, 1927) and centennial (1973) of the founding of the College (Gardner, Beardsley and Carter, 1973) also proved valuable, not only for contextual background but also in prompting detailed inquiries. Editions of *Canta*, the newspaper of the Students' Association, were also consulted. Several UC academic-managers and officials responded to questions and made comments about the analysis, and a staff seminar was held.

The results of the study are voluminous. For reporting purposes, they are being divided into chunks suitable for academic journals. During his inquiries and as he interpreted data, the researcher discerned three themes of longstanding significance, and it is one of these with which this particular paper is concerned, namely, relationships between curricular accounting and the setting, policing, evaluating and raising of standards/qualities of university-student learning and assessing the equivalence of such learning. The other three themes, around philosophy of universities and of public services, university funding and university enlargement are dealt with in detail in other papers (see Dixon, 2010a, 2010b), but are alluded to incidentally in this paper, as the four are inter-related.

Analysis

The analysis is of how and why curricular accounting about university-student learning reflects and constitutes standards and equivalence. It can be inferred from data derived from the entire life of the institution that is now UC that curricular accounting's emergence and development has been shaped by various people, and educational, economic, political and social occurrences and issues with which they were concerned, both within the institution and in the dynamics between institutional participants, individually and collectively, and the outside world. For specific periods during its emergence and development, the accounting and its antecedents took particular forms, known as *the 360 point degree system* (2006-), *the new degree structure* (1975-2005), and *the unit system* (1926-1974). The name(s) of the system(s) before that have not been located but the elements and provisions have. These various systems reflected many issues and occurrences, and shaped and

formed some of them. Of the four themes induced by the researcher as having shaped curricular accounting, standards and equivalence was the earliest to arise.

Standards and the Formative Years of the College

The mainstays of the College in its early days were prominent, usually wealthier, persons among the mainly British settlers to Canterbury Province, and academic staff whom they recruited from British universities. Their idea for a university was a mix of providing access to education, bringing about the educated population that would be important to the settlement's development and being a matter of provincial pride. They were cognisant of the shortcomings in secondary education, resulting in students being poorly prepared for tertiary study. But they were also desirous for the standards qualifications to be raised to those of British universities, which most had attended and where they continued to send their sons (Gardner et al., 1973; Hight and Candy, 1927). These original circumstances exemplify a subject that recurs frequently, that of tertiary courses and qualifications being juxtaposed between, on the one hand, the standards of entrants from secondary school and their economic circumstances (e.g. many could only afford to study part-time), and, on the other hand, the development needs of New Zealand (e.g. teachers, engineers, lawyers, accountants). The original circumstances also indicate that concerns are long standing about standards compared to Britain and, subsequently, other selected countries (e.g. Australia, Canada, USA, EU), with implications and consequences for higher education provision (i.e. such matters as teaching, research, administration, facilities, governance, student quality and learning).

The accounts of Gardner et al. (1973) and Parton (1979) indicate that in the first few decades, the concern about standards was reflected in several matters. For example, the College chose to recruit professors from leading British universities for much of its existence; and it was still contentious to employ people with only New Zealand qualifications as professors c. 1920. It was decided to establish UNZ, rather than having a university in each province: Gordon (1946) describes it as a "Policemen University, whose main duty was to Keep up the Standard" (p. 271). UNZ remained a

non-teaching, examining institution throughout its existence: it conducted colony/dominion-wide matriculation examinations, and used examiners based in Britain to set and mark examinations for degree subjects. Between them, the lay and academic founders of the College and UNZ knew basic ideas, structures, processes, practices and the like from Oxbridge, the ancient Scottish universities and elsewhere of similar antiquity; and, as notions of path dependency, and indeed mimicry, would lead one to expect, they applied these, as was evident not only in matters of appearance (e.g. ancient stone buildings, formal academic dress) but also structure and process, often in the name of standards and equivalence. Standards also figured in both sides of the various arguments that occurred during UNZ's existence about whether academics as distinct from laypersons should be involved in UNZ's governance: the issue was whether this involvement would raise or prejudice standards (see Francis, 1997; Gordon, 1946; Hunter et al., 1911), and it gave rise to the Board of Studies (in 1915) and then the Academic Board (in 1928), and partly contributed to UNZ's eventual dissolution (in 1961) (Gardner et al., 1973; Hight and Candy, 1927; Parton, 1979).

Representational Scheme

Curricular accounting as it later materialised at UC was not among practices with which these founders could have been familiar from universities they had experience of or otherwise been familiar with in southern England and elsewhere in Britain. Probably the only system remotely like it in the English-speaking world at that time was the Student Credit hour System, which was still in its infancy in the USA (Heffernan, 1973; Rothblatt, 1991). Instead, they and their successors over the first 90 years of the institution that became UC and of UNZ (and their counterparts at the other affiliates) used non-calculative practices instead. These can be envisaged as part and parcel of a consistent representational scheme, to which the various matters contribute. The scheme featured applications of mainly-British-derived basic ideas and has endured through several versions, by virtue of modifications to fit changed circumstances of UNZ and the College / University College, and then UC, alongside NZVCC and the first of the two "Ministries of Universities" (i.e. UGC, the other being the present TEC).

Here is an outline of the scheme. The participants in the College, UNZ and its other affiliates and UC have included, among others academics, students, examiners, administrators, and academic and administrative governors. Students have studied towards qualifications under the tutelage of academics. Study has been separated into subjects, and then into examination papers and courses of lectures/study. Qualifications have been distinguished into levels (e.g. *bachelor*, *honours*, *master*); and bachelor degree qualifications have further distinguished into stage-based levels (e.g. *pass*, *advanced*). Graduates have used their learning and qualifications to enrich their lives, including to secure employment as teachers, in other professions and other work to which they were suited, and/or to go on to further study. It seems that at various times most participants have found the particular version of the representational scheme that they experienced sufficient for going about their activities, and any who have not have been expected to work with it anyway. However, there have been those who have been prepared to dispute the status quo and campaign for change, and from time to time this activity along with external or internal social, economic, technological and political occurrences has given rise to modifications to how the basic ideas have been applied, and so to the aforementioned revisions and successive versions of the representational scheme.

Qualifications

Qualifications are a prime example of how a concern for standards has shaped change. Initially, UNZ conferred the degrees BA, BA with Honours (BA(Hons)) and Master of Arts (MA). Lectures and college examinations (or courses) leading to these were offered across all affiliates in conjunction with UNZ, and were tailored to the needs of school teachers. Then, as enrolments from teachers began to decline and the need in the Colony for other professions became apparent, there was some diversification in that more bachelor degrees were designated by UNZ, for example, of science, laws, music and commerce, for which see Gaffikin (1981), as shown in Figure 2; and corresponding courses were staged by affiliates, including in new branches (e.g. in 1890, the (National) School of Engineering was founded at the College). However, as much as providing alternative qualifications, the persons championing these changes were concerned about the breadth

of subjects in the BA being achieved at the expense of depth in a major subject, and so giving rise, they argued, to the BA being a mere *pass* degree and of a lower standard than counterparts in Britain and elsewhere (Gardner et al., 1973). Thus, alongside the inauguration of these new more specialised degrees, changes were made to the BA itself, which continued as the most popular degree. These changes illuminate how this concern for standards and equivalence contributed to the coming about of curricular accounting.

[INSERT ABOUT HERE FIGURE 2 The Branching Out of Bachelor-level Qualifications between the 1870s and 1900s]

Rooted in the idea of preparing teachers for the Colony's schools, the BA in the 19th century was a general degree, reminiscent it seems of the Scottish ordinary degree (see Theodossin, 1986), requiring and encouraging breadth of study across several subjects, sciences as well as arts. Intent on raising the standards that students had to achieve to complete the BA, UNZ revised the degree regulations by the simple expedient of adding a further subject requirement c. 1880 to give rise to the so-called "Sale-Cook" degree, and then again c. 1890. That is, the original requirement to pass in four subjects was increased to five, and then to six: the number of examination papers this entailed rose from 8 to 10 and then 12.

Eventually and not without a long-running struggle, further criticisms (e.g. as levelled by Hunter et al. (1911) on behalf of an assortment of concerned academics) led UNZ to make further changes to the BA, with consequences for the other bachelor degrees. Significantly, levels of examinations (and courses) were distinguished between *pass* and *advanced*, which was defined as two years study in a subject subsequent to *pass*. Students were permitted to choose among three patterns of subjects and levels. That is, they could take a broad six-subject degree, without any at advanced level; or a narrow four-subject degree, with two subjects at advanced level; or an intermediate five-subject degree, with one subject at advanced level. That this opportunity for greater depth at the expense of breadth had student support is reflected in statistics from 1917: 55% of students chose the four-

subject option and 41% chose the five-subject one, so marking the *de facto* end of the six-subject *pass* degree. However, UNZ rejected several proposals during this period for a nine-*unit* degree, the first of which was put forward in 1909 by Arnold Wall, the College's professor of English (1898-1931) (Parton, 1979).

Unit System

The *unit system* came about when the nine-unit proposal for the BA finally succeeded in 1926 (Gardner et al., 1973; Parton, 1979). As to the originality of a degree specified in this way, degrees of the University of London comprised nine course units (Theodossin, 1986) but this was not initiated until the 1960s, some 40 years in arrears of UNZ. As to parameters of this system, a *unit* was defined as one year's work in an approved subject. Each subject normally comprised a *First year unit* course, a *Second year unit* course and a *Third year unit* course. Each *First year* course was a pre-requisite of the *Second year* course, etc. Each unit mostly had either two or three, mostly British-set and marked, UNZ examination papers, which had all to be passed to complete the unit. The new BA regulations required students to complete nine *units* in five subjects over three years, or the part-time equivalent. At least one subject had to be at *Third year* and one other had to be at either *Second year* or *Third year*. The requirement for nine units meant passing between 18 and 27 UNZ examination papers in all. As examinations for each unit were sat at the end of the unit course, for a full-time student they would fall not only at the end of the second and third years, as previously, but also at the end of his/her first year.

Further changes followed not only in the use of the *unit* metric as a reference to subjects, examinations and courses, which as indicated already was definitive in degree structures of UNZ and then UC until 1974, but also to the structures of the other bachelor degrees (e.g. the nine-unit pattern was adopted for the BSc. from 1927, although it was later changed to eight) (Gardner et al., 1973; Parton, 1979). It gave rise to the possibility of some standardisation across subjects and courses, and so its inauguration was an occasion at least formally when, having drifted apart by

developing in their own ways, the majority of bachelor degrees were brought closer together to make them of a similar standard and equally demanding in what students had to attain to graduate. As to uniformity across the same year/level of a subject at different affiliates, and coherence between different years/levels of the same subject (and conversely scope for variation and innovation among these), the continued subordination of teaching to common external examinations and, by implication, common curricula, common textbooks and similar, all overseen in some detail by UNZ, made for a uniformity and coherence within subjects that had its supporters and its critics (e.g. see Gordon, 1946, re undesirable bureaucracy that was somewhat stifling of innovation). As to comparability of the same year/level across different subjects, consistency was very much a judgement call on the part of participants in UNZ's governance and examining: there were no formal learning outcomes that provided a basis of comparison.

Equivalence of Learning and Transfer of Credit (1)

These notions (see Toyne, 1979), in particular, credit transfer between affiliated colleges and between UNZ and overseas universities, warrant a mention at this juncture. The very existence of UNZ and, over and above that, its examinations process and system of results and qualifications, meant that having to assess the equivalence of courses and qualifications within New Zealand for purposes of credit recognition and transfer did not arise in the way that has been the case since UC took over from UNZ in assessing students and conferring degrees. The use of the same examination paper established *de facto* norms for what was taught, how and using which textbooks and materials; and norms for what was learnt and how, although these were not expressed in learning outcomes and other present day means. Students going through their degrees were assessed ultimately using the same national external examinations each year in the various levels of each subject. Transfers of credit between UNZ degrees were permitted under regulations laid down by the UNZ Senate. Student who moved between affiliates were allowed to continue with the same degrees and sit the further UNZ examinations as appropriate.

The equivalence issue, involving learning from outside New Zealand, was limited for many years to complete qualifications. As UNZ statutes permitted, its Senate conferred degrees on people already possessing degrees from British and foreign universities. Obtaining a UNZ degree made it easier for a new immigrant with an overseas degree to be accepted in teaching and other professions in the colony. Later, the foreign degree holders sought recognition that their degrees were at least equivalent to UNZ degrees in order to enter a university college and study for a UNZ higher degree. As the applications were few, it was easy take the facts of each application and let the UNZ Senate evaluate the application on merit. Then, credit for incomplete qualifications and individual courses emerged as a matter for consideration. By the 1950s, the number of applications warranted the process being delegated to a standing committee of UNZ's Academic Committee. In assessing credit, curricular accounting measures do not seem to have figured at all, if indeed they existed. As returned to below, once UNZ handed on its powers to confer degrees to UC and the other universities, these then took over the function of overseas credit recognition and transfer; and a new function arose of credit recognition and transfer among New Zealand universities. When other tertiary institutions in New Zealand were also given statutory authority to confer degrees and similar qualifications in the 1990s, credit recognition and transfer was extended to them.

From UNZ to UC

Initially, the functions of the College and the other affiliates appeared mostly to dovetail quite well with those of UNZ, with examinations especially being central to their interrelations. Inevitably, however, mismatches and tensions arose intermittently. In the first few decades of UNZ, these were unsatisfactory only to a minority, albeit a vocal one, who broached the issues of how UNZ might be reformed, how relations between it and its affiliates might be revised and whether UNZ should be dissolved and separate universities established (see Hunter et al., 1911). These issues became the subject of continuing debate in which both sides recognised that the influence that those in control of UNZ had over academics working at the College and the other affiliates carried through into the

form and curriculum of qualifications, how students were examined, how standards were discoursed and the way activities were arranged and represented. The two sides differed over whether this influence was good or bad for standards and equivalence. Those on the side arguing that it was good held sway well into the 1920s but they had to concede on various matters, including agreeing to adopt the unit system (Gardner et al., 1973; Parton, 1979).

From the 1930s, this side's position became increasingly less tenable as concerns about academic standards of UNZ and its affiliates grew. A vital issue was over UNZ's structures and processes—"cumbersome", "outmoded" and "paralysing" were how many saw them—and the difficulties they presented for academics and institutions wanting to keep up with changes occurring to what universities were about not only in Britain but also in the other dominions and the USA, including the range of subjects and activities they encompassed. Reforms to the university system arose out of these circumstances between the 1940s and 1960s. They included devolvment of responsibilities and functions of UNZ to the university colleges and its eventual formal dissolution (Gardner et al., 1973; Gordon, 1946; Gould, 1988; Parton, 1979; UGC Review Committee, 1982)

Responsibility for the representational scheme and its underlying basic ideas moved during these reforms. Academics and governing bodies at the University College and its counterparts obtained some authority, albeit in dribs and drabs, to prescribe award regulations for degrees and diplomata, to lay down prescriptions for courses and to approve students' personal courses of study. They used this new authority to make various proposals, including for courses that would be peculiar to their colleges and for variations to qualification regulations affecting the number and level of units.

These were only controversial for as long as variations from existing practices were regarded as threats to standards of courses and qualifications but, once the principle of course and qualifications varying across university colleges was accepted, such proposals began being considered on their merits and became somewhat commonplace (Gardner et al., 1973; Parton, 1979).

Alongside the acceptance of new courses from teachers at the University College and UNZ's other constituent university colleges, UNZ also ended completely the use of British-based examiners, and then, by 1950, replaced many external examinations with internal ones at each affiliate. This meant that teachers came nearer to covering the subject matter in which they were confident and considered most relevant. There had already been a move in the 1940s at the University College towards using tutorials and shifting the emphasis a little away from teaching and towards learning. The introduction of more internal examining meant they could move away from teaching to the external examinations, which had included lecturing on everything that it might have been possible for the external examiner to include on the external examination paper, probably shifted the emphasis towards learning even further. And it probably shifted further still between 1960 and 1980 because of a trend in NZ universities generally for work assessed during courses to be included in the calculation of final grades, instead of the measurement of student attainment being solely reliant on final three-hour examinations (see UGC Review Committee, 1982).

The new courses and variations in degree regulations changed qualifications, some becoming broader as to subjects and others specialising in a subject in more depth. However, *units* and stage-based *levels* continued to be the way these were expressed formally in award regulations of UNZ and, from 1961, of UC (Gardner et al., 1973; Parton, 1979).

UC at Ilam and the *New Degree Structure*

UNZ dissolution and the bestowing of authority on the university colleges to establish and regulate qualifications, conduct assessment and confer qualifications was a change that occurred over several years either side of 1961. Shortly after UC's emergence, construction began, some 20 years after first being mooted, of a second UC campus in Christchurch's western suburbs at Ilam, on a much larger site than the original. By the early 1970s, the original campus had been vacated and UC was reunited on the Ilam campus, with bigger and better teaching and learning, research and student

accommodation facilities, all of which have continued to be expanded (Gardner et al., 1973; Parton, 1979; UGC Review Committee, 1982).

The new campus created the possibility of UC throwing off its previous character as an affiliated college of UNZ, with a provincial outlook and teaching responsibilities, to become a university with national responsibilities and an international outlook (Gardner et al., 1973). In view of this possibility, perhaps it is more than coincidence that the move to Ilam took place in tandem with the implementation at UC of the first system of curricular accounting in which credit points were incorporated. Officially referred to at the time as the *new degree structure*, this system was a melding of *the unit system* inherited from UNZ and the idea of assigning credit points to courses and specifying qualifications in terms of points. (e.g. a three-year, full-time bachelor degree should usually require the successful completion of courses whose total value was 108 points).

In promoting the *new degree structure*, Vice-Chancellor Phillips likened *unit* courses to large stone blocks (the façade of the original campus springs to mind, with bricks being the equivalent of 12 points in the new system), compared with small bricks that the *new degree structure* would facilitate (Lego® springs to mind, with bricks worth as few as 3 points) ('Credit points', 1974). However, in rising above the comparison of the bricks and mortar of the two systems, he spelt out eloquently the social and political significance of this first system of curricular accounting, as follows:

Much water has flown under bridges both social and academic in the last half century [during which the *unit* system prevailed]. From being almost on the fringes of society, universities have moved into a central position. They now provide in much larger numbers and in wider variety the professional men and women upon whom we depend to lead our society forward into the twenty-first century.

And this is a society in ferment, more delicately articulated, with greater interdependence among its parts, more heavily reliant on expert skills and the power to innovate, conscious of

serious economic problems and more concerned to better the physical and cultural environment and the lives of those who are handicapped by age, sex, race or simply an impoverished family background, as well as to uplift our poorer neighbours in the South Pacific.

The university will not and cannot stand aloof from these tides of change sweeping over a society which supports us and of which we are an integral part. In a large sense then this revision of our teaching arrangements is but one of our responses to the social challenge.

There is also the academic challenge implicit in the extraordinarily rapid growth of knowledge. Universities, Canterbury among them, have been major incendiaries in setting off this explosion. More knowledge has to be absorbed, refined, transmitted and – not least important – offered in new combinations. When we set out to study the environment, social work or regional planning – to take only three examples – we soon become acutely aware that new perspectives open and that regroupings of knowledge are imperative. All this lies very near the heart of the proposal to renew our degree structures. (Phillips quoted in ‘Credit points’, 1974, p. 5)

As this quote exemplifies, standards/qualities continued as a high priority for UC c. 1970 and, as he makes clear elsewhere, Phillips was concerned with keeping up with not only with British changes but with international changes to what universities were about and the range of subjects and activities they encompassed, rather than taking an introspective New Zealand viewpoint (see Phillips, 1970). Even so, curriculum reform nationally in the 1960s and 1970s was spurring increases in the range of recognised university subjects and disciplines (see Gould, 1988). Meanwhile, the Organisation for Economic Co-operation and Development (OECD) was exhorting governments in its member countries to pursue educational development and broader participation in order to advance technologically, and so develop economically (Theodossin, 1986). The consequences were more meta-qualifications (e.g. a BA or a BSc) and more sub-qualifications (e.g.

endorsements and majors within these degrees), catering for and attracting more students and requiring and enabling financially more staff to be hired. The curriculum accounting implications of these are analysed in Dixon (2010b), showing that the *new degree structure* facilitated and reflected changes to the regulations of the BA, BSc., BCom. and the many other undergraduate qualifications at UC and aimed to permit a wider range of study and smooth the progress of new endorsements, majors, subjects, departments and courses.

Bricks and Mortar of the *New Degree Structure*

The system was approved and implemented in stages because of controversies surrounding it. Initially, a system, known as the *starred paper* system, was agreed upon at UC c. 1970 to allow undergraduate students in effect to combine two half *units* as part of the number of *units* (e.g. nine) specified for their degrees; and so to provide greater scope for cross-department/subject study (the University of Otago used a similar system). The *starred paper* system was only partly effective and proved difficult to administer, and so further discussion and negotiation took place leading to the *new degree structure* being introduced from 1975 (Committee for Educational Policy, 1973). The *new degree structure* entailed the qualifications in question being translated from requiring a specified number of units to requiring a specified number of credit points. Each existing unit was designated as comprising 12 credit points; and the nine-*unit* degrees (e.g. BA, BCom.) were deemed to comprise 108 credit points, and the eight-*unit* BSc. was deemed to comprise 96 points. There seems to have been no official definition of a point other than that just like a *unit*, one year's work in a subject amounted to 12 points. Alongside this, half-papers that arose from the *starred paper* system, and other courses created by breaking up unit courses, gave rise to courses of 4, 6 and 8 points, as well as 12 points.

In adopting this points system, claims were made that the use of points would afford flexibility in the composition of courses of unit and sub-unit size and in the shape of degrees. Students would have greater freedom to choose courses that they would prefer to include in their qualifications. In

particular, it would have a liberalising effect by allowing students associated with one faculty to study courses in other faculties, thus breaking down artificial divisions between subjects in different faculties (Turbott, 1974). By opening up these possibilities for student choice, there was some expectation that student enrolment patterns would extend to the new disciplines and subjects that were being equated with higher university standards, and so these new areas would be justifiable in terms of demand as well as educational prestige. Of course, such new subjects were not universally welcome among the academics, and in response to various criticisms and misgivings that sprang from this circumstance, the UC authorities undertook to improve student counselling and other processes in order to ensure personal courses of study through a degree made “academic good sense” (‘Credit points’, 1974, p. 25) and to prevent “a kind of ‘supermarket’ shopping for imagined ‘soft options’” (‘Credit points’, 1974, p. 25). As the new system provided a potential for overall student workloads to increase if lecturers delivering now smaller individual courses were to increase the material that they put into them compared with the quantum of material that was in original whole unit courses, students were encouraged “to watch the staff, and administration, very carefully” (Bishop, 1973, p. 4).

The New Degree Structure in the 1990s and 2000s

By 1990, courses had emerged across UC of 3, 4, 6, 8, 12 and 24 points. Moreover, 6 points was the more usual reference point as to what a standard-sized course comprised, compared with previously when the *unit* (\equiv 12 points) served this purpose. Courses were listed in each year’s Calendar with lecture hours, and laboratory and/or tutorial hours specified but there was no precise pattern to these hours in terms of proportionality to a course’s point value. Furthermore, the required points for a three-year bachelor degree had been changed to 102 (from either 96 or 108), and students were now required to have 48 points above *Stage I* (up from 36 as far as the BA and BCom. were concerned), including at least 12 at *Stage III*. Thus, although bachelor degrees were slightly smaller in volume, at least formally, they entailed more study at higher levels than before, thus again raising the

standards that students had to achieve to complete these degrees, as happened when the unit system had been introduced.

The *new degree structure* had mostly been about revising UC's degrees and related undergraduate qualifications. It provided and facilitated choices of study and combinations of subjects among an increasingly large and less supplicant-like body of students. It made it easier than before to recognise credit among qualifications within UC. It contributed in other ways to having a system that was capable of providing order and control among not only increasing numbers of participants at UC but also academics with increasingly diverse knowledge and interests in teaching and research, and students from an increasingly diverse mix of New Zealand and overseas school leavers and people of varying ages and a range of workplace experiences. It brought about changes to activities, events, behaviour and values of UC participants, and so the representational scheme of UC.

The 360 point degree system

In the 2000s, the official claim was made that “the generic nature of our degrees derives from flexibility of pathways” (UC, 2003 p. 7) and the desire was to maintain and enhance these circumstances. Thus, thirty years on from adopting the *new degree structure*, UC turned to the *360 point degree* system to replace it. Again, there was much negotiation and discussion across UC before the approval process came to a resolution at UC Academic Board (UC, 2004, Minute 7) and the system, as outlined earlier, was introduced in 2006.

Whereas the *new degree structure* system was introduced to improve relations within UC, the *360 point degree* system had more of an external relations appeal, easing UC's dealings with external parties both in New Zealand and that comprise the international network of tertiary education that staff at UC considered themselves to be part of. It also afforded UC opportunities to iron out some anomalies that had surfaced in the existing system. Thus, three reasons were used to justify the change, as follows. The *360 point degree* system would comply with NZQA requirements. It would

facilitate transfer of credit. It would achieve consistency between credit points and course weights, thus simplifying the relationship between these two metrics, and so making it more understandable for students and staff (UC, 2003). These reasons were offered as a counter to several internal issues that arose during consideration of the proposed change, such as how much change would be entailed to the size and composition of existing courses, how would the potential of the change to increase student workloads be guarded against, and what would be the financial impact.

NZQA Requirements

On the validity of this, NZQA had indeed adopted a *360 point degree* system for specifying qualifications (e.g. degrees, certificates, diplomas), including postgraduate ones (see NZQA, 2003). But NZQA did not actually require UC to adopt such a system and had no formal powers to compel it to do so. That the UC system did not encompass postgraduate courses and qualifications was indicative of this lack of compulsion. However, *360 point degree* systems were in widespread use in other New Zealand universities and polytechnics, and so for UC to use such a system would make many functions easier for many people inside and outside UC, including comparing standards/qualities of learning and qualifications, and, as the second reason recognises, credit recognition and transfer, as dealt with below.

Almost incidental to implementing the *360 point degree* system, UC introduced a significant change to satisfy NZQA as the regulator of degrees on behalf of the Government. As UC (2003) points out, NZQA had laid down a policy that a minimum of 20% of the study for a bachelor degree should be at 300-level (being level 7 in the Framework shown in Figure 1) (see an updated version of this in NZQA, 2007), whereas UC's existing requirements for 12 points out of 102 points was below this. When regulations of all UC's bachelor degrees of three years duration were restated in terms of points of the new *360 point degree* system variety, students were required to complete at least 84 points of 300-level courses (usually three 28-point courses). This raised the proportion of 300-level study in these UC degrees from 17% (i.e. $0.5100 \text{ EFTS} \div 3.0000 \text{ EFTSs}$) to 23% (i.e. 84

points ÷ 360 points (and 0.7000 EFTS ÷ 3.0000 EFTSs)). UC (2003) justified exceeding the 20% minimum by claiming it would emphasise UC's commitment to high quality degrees. Be that as it may, formally at least, the replacement of one points system by another was accompanied again by a raising of the standards that students had to attain to complete a bachelor degree.

Equivalence of Learning and Transfer of Credit (2)

Making credit transfer easier within and among jurisdictions increases possibilities of qualification completion (and reduced the rate of non-completion); and increases access to higher degrees for holders of bachelor degrees. The *new degree structure* system, being to some extent peculiar to UC, certainly when it came to dealing with non-New Zealand universities, was cumbersome in this regard and required much complex translation of points (UC, 2003). In contrast, there seems to be some justification to UC's (2003) claim that the *360 point degree* system is an international standard, in that the system bears a close resemblance to CATS. However, UC (2003) made no reference to either the Student Credit hour System or ECTS, which are arguably international standards of at least equal standing to CATS, with ECTS in particular having replaced national systems in several jurisdictions in Europe, and so likely to challenge and perhaps replace CATS in Britain.

UC (2003) justified the desire for an international standard on grounds that inward international credit transfers based on incomplete qualifications were increasing, in line with widening participation and greater mobility. No doubt the same trends applied to inward credit transfer from within New Zealand, and the *360 point degree* system would also make this easier because many other institutions use the same system (see NZQA, 2008; UC, 2007). Outward credit transfer was not referred to specifically by UC (2003), but this had also been increasing significantly, and so specifying UC study according to the *360 point degree* system would likely make it easier for past UC students to obtain credit and obtain entry to higher degrees in Britain and in universities in other countries familiar with CATS.

A further issue relating to the efficacy of curricular accounting in matters of credit recognition and transfer can be dealt with here. While the widespread adoption in various jurisdictions of international forms of such accounting has made some aspects easier, the validity of the notion that credit points earned in each and every jurisdiction are of the same quality is an important issue. For example, how do 30 CATS points at 300-level in a particular subject or attaching to particular learning outcomes from the University of Durham (England) compare with 30 points at 300-level similarly specified from Canterbury Christ Church (England), and are they the equivalent of a 30 point 300-level course with similar specifications at UC?

Questions like this go beyond the matter of equivalence to the matter of standards. The use of levels, points, learning outcomes and other features in ways that, on the surface at least, correspond to how other institutions (e.g. those whose qualifications appear on the New Zealand Register of Quality Assured Qualifications, those using CATS) use them has made it easier to compare standards and to test the equivalence of qualifications. However, heed needs to be taken of a warning that Bekhradnia (2004) raises in an international context: The increasing focus of mainstream CATS developments on the quest to define meaningful and commonly acceptable ‘outcomes’ for each course and module is, along with other bureaucratic structures, risking undermining the whole enterprise of learning recognition among institutions. Study of 30 points at 300-level at some institutions is going to be more equal than study of 30 points at 300-level at other institutions for the various reasons that distinguish some tertiary institutions, disciplines and academics from others.

Consistency, Simplification and Understanding

The third reason UC (2003) gave for the *360 point degree* system was about replacing a system with one that users associated with UC, particularly students and staff, would find easier to understand, and so, presumably, easier to use and realising more of its full potential as a means of improving and controlling standards/qualities. In the section entitled *NZQA Requirements*, the percentages 17% and 23% were calculated, the former under the practices associated with the *new*

degree structure system and the second under the *360 point degree* system. Although this example has more to do with other themes identified in the study, and so is not be gone into here in its extensive and probably bewildering detail, it does exemplifies the validity of the claim that the new system would be easier than the old system for students and staff to understand because, unlike in the old system, points values and course weights in the new system correspond directly and consistently within and across levels (i.e. 100-, 200-, 300-levels). The vital quantitative relationship in the *360 point degree* system is that “Nominally 1 point = 10 hours study or total learning hours” (UC, 2008b), no matter what the level; or put even more simply, 1 point at every level equates to a course weight of 0.00833 ECTS. The distinction between levels is based on what students are expected to learn during a study hour, with higher standards/qualities of cognitive and affective learning, based for example on relevant educational theorising (e.g. see Roberts, Watson, Morgan, Cochrane and McKenzie, 2003), being expected at higher levels.

A goodly proportion of the academics who had to be persuaded about the *360 points degree* system for it to pass through formal committees were sceptical of the basic idea that *points* can be translated into *work hours*: seemingly such an idea was regarded as “inappropriate for a university” (UC, 2003, p. 5), there being a general belief that university standards were superior to lesser institutions of tertiary education, whence the idea was believed by some to have derived, because of its use by NZQA. This caused UC proponents of the change to try and distance the proposal from this idea, in particular the quantitative relationship labelled above as vital. However, subsequent to the *360 points degree* system having been agreed and implemented, the notion that “Nominally 1 point = 10 hours study or total learning hours” frequently appears in the discourse of official UC papers (e.g. see UC, 2008b). But, as of April 2010, it was not actually in any formal statements in the UC Policy Library (UC, 2010), probably because such statements must go through various academic committees and it is doubtful if the notion in question would receive a smooth passage. Having to downplay this notion seems to represent an obstacle to individual and collective effort in realising more of the system’s full potential alluded to above as a means of improving and

controlling standards/qualities. Furthermore, because the notion is still disputed, so the meanings of system as a whole are disputed, as was evident, for example, in meetings of committees to discuss proposals for all UC courses to be of a common size of 15 points or multiple of 15 points, and for a common graduate profile for all majors and endorsements of the BCom.

Issues 2010

Theories of *negotiated order*, *path-dependence*, *representational schemes* and *genealogy* stress the dynamics of situations, in that while issues give rise to a new order, part of the new order comprises unresolved issues and circumstances out of which new issues might arise, and these issues will give rise to further changes and a subsequent new order. As was voiced by some of its supporters (and opponents) when it was being approved (see UC, 2004), the *360 point degree* system gave rise to a new source of complexity, which amounted to an unresolved issue that has arisen again and for which a resolution has been sought. The complexity was/is that the system implemented in 2006 encompassed a perplexing array of point values of courses, ranging from 11 to 28. In 2004 and 2005, some supporters of the proposal for *360 point degree* system pressed for a uniform number of points for all courses. However, these supporters were told by its main proponents that the proposal was the “best solution available” (UC, 2004, p. 7) in the circumstances, anticipating that including a uniform requirement in the proposal would risk its defeat. By 2009, views had changed enough for this issue to be revisited and the outcome is that during 2010 and 2011 all UC undergraduate courses are being converted to have a common size of 15 points or of multiples of 15 points (i.e. 30, 45, and 60).

A consequence of this change is interesting for being consistent with previous changes to systems. All undergraduate degree regulations are changing to accommodate this standardisation. In making these changes, it has been decided that the points required at higher levels of these degrees will be rounded upwards to the next multiple of 15 points, and conversely fewer points will be required at lower levels (i.e. 100- and 200-levels, being levels 5 and 6 in the Framework shown in Figure 1) to

leave the total points unchanged. Thus, of the 360 points required for a three-year degree, at least 90 points must in future be at 300-level and not more than 135 will be permitted at 100-level. This raises the proportion of 200- and 300-level study in these UC degrees, the latter increasing from 23% as calculated above to 25%, notwithstanding that the minimum NZQA requirement remains at 20%. This choice to raise the requirements at 300- and 200-levels seems to have been made mainly so as not to be seen as lowering standards for 2012 graduates compared with 2011 graduates.

However, another issue occasionally alluded to is the situation now pertaining in England, where for 360-point bachelor degrees (commonly called bachelor degrees with honours) 90 of the points should be at Further and Higher Education Qualification Level 6 (\equiv 300-level) (see Quality Assurance Agency for Higher Education, 2008). Seemingly null and void by now are earlier arguments against the increased requirement of 300-level points to the effect that this lessens the breadth of degrees and so their liberality (see UC, 2004).

Other ramifications of the decision to standardise by having a common size of 15 points or of multiples of 15 points are less public or shared but are occurring and are associated with standards. They include the following. First, many 2009 courses should need either minor or major redesign because their points value are having to change, and that additional courses are required, for example, because two courses of 22 points each are having to be replaced with three courses of 15 points each. The new and revised courses have to be processed for approval by academic committees and can come under a scrutiny that is more attuned to current standards compared with when courses originated. Second, the number of 15-point courses required for a three-year bachelor degree will be 24, compared with as few as 18 or 19 under the previous arrangements. This increase in courses is likely to result in an increase in the number assignments that students must complete and numbers of tests and examinations they must take to obtain a qualification, and this may affect standards and students' workloads, notwithstanding the notion that "Nominally 1 point = 10 hours study or total learning hours" may be more accepted by course designers, and so be taken greater cognisance of by them in designs of courses. Whether actual workloads will correspond more

closely with those implied officially by their credit points values is uncertain. At present, students' actual workloads are not monitored formally but data available through the Australasian Survey of Student Engagement (2009) for UC and other universities in New Zealand and Australia suggests that the hours during which most students actually study are less than those signified by the credit points for which they are enrolled. Studies of student workloads on programmes in England specified in CATS points have produced similar findings, as well as evidence of wide variations in study times in different disciplines at the same institution and in the same discipline at different institutions (see Bekhradnia, 2009).

Conclusion

The purpose of this retrospective analysis is illumination, not only at the case study site but across tertiary education in many countries, given the use of what have been labelled curricular accounting, as shorthand, in the other seven New Zealand universities and elsewhere. How the calculative practices, processes, records and associated means of measuring, recording and reporting university-student learning have come about is analysed alongside changes to ideas of standards/qualities and equivalence of learning. This is all within the context of the founding and development of the College, UNZ and its other affiliates, and the dissolution of UNZ and inception of UC and other universities elsewhere in New Zealand. Regarding further research, as this founding, etc. have not been devoid of influence from other countries, which are among the “many” referred to above, the illumination should help those in the many countries research and analyse what is occurring, what has occurred and what may occur in these other jurisdictions.

Curricular accounting comprises various elements that are very much aspects of life for participants in the UC enterprise (e.g. academics, students, administrators, and academic and administrative governors, accreditors). They are one of the binding forces in the representational scheme they work to, at least as much as financial and management accounting, control and auditing. Students study towards qualifications specified in regulations that feature credit pints and levels. They do so

following learning designs compiled and staged by academics, who loosely speaking work to learning outcomes and rules of assessment. Study is separated into knowledge and skills that relate to subjects, and then into courses specified as to points, which loosely translate to hours of student effort, and to level; and students are assessed on what they are supposed to have learnt.

Qualifications are distinguished by levels (e.g. *bachelor, honours, master, doctor*); and bachelor degree qualifications are further distinguished into stage-based levels (e.g. *100-level*). Graduates use their learning and qualifications to enrich their lives, including to secure employment and/or to go on to further study in New Zealand and many other places. Furthermore, although UC has its idiosyncrasies, it is not so peculiar as to suppose that this particular scheme might not shed light on many other universities.

Most UC participants find the representational scheme sufficient for going about their activities, and many who do not acquiesce and work with it anyway. However, there are those who are prepared to dispute the status quo as not being good enough, or being flawed, or too right wing or not sustainable enough, etc., and campaign for change, and from time to time this activity when combined with internal or external social, economic, technological, political and other types of occurrences gives rise to modifications of how basic ideas incorporated in the representational scheme apply, and so to revisions and future versions of the representational scheme. For example, there is discomfort among UC academics over the connection or disconnection between learning, learning outcomes, levels, assessment, student workload and points. The CATS system, on which the *360 point degree* system is based, is under challenge from the ECTS system, alongside the many other issues that the Bologna Process is raising (see Ministry of Education and New Zealand Qualifications Authority, 2008), not to mention issues arising from the Melbourne Model, which incorporates elements of Bologna (see Devlin, 2008) and debate about which is spilling across the Tasman Sea into New Zealand. The issue of equivalence of quality of qualifications, courses of study, assessment, learning, knowledge, skills and teaching among universities and between universities and other tertiary education institutions continues. Similarly, the notion of academic

credit for work-based and other learning, formal and not-so-formal, outside of the ambit of tertiary education institutions (i.e. outside either on-campus or distance courses staged by said institutions) being given to people seeking qualifications is likely to arise. Again, notwithstanding UC having its idiosyncrasies, it is likely that similar issues pertain at many other universities.

Having taken an analytical approach predicated on path-dependency, there is a risk that some post-development rationalisation was inevitable. However, having identified such basics as qualifications, courses, levels, student records and student fees from the 1870s (i.e. the College was not a village-like community where people shared learning informally and without institutional or socio-economic purpose), and how these evolved subsequently, the evidence seems clear enough that curricular accounting did emerge and develop at Canterbury, once ideas and experiences had been carried there by English and Scottish settlers and academic immigrants. The other people to have shaped it were the various participants at the institutions in question and who have comprised the UGC, NZVCC, NZQA and TEC, and many more, both in New Zealand and elsewhere. Among the issues to have shaped it were those around academics aspiring to high educational standards, comparable with and equivalent to some British and other highly regarded universities. In turn it seems to have opened up possibilities for UC to maintain and show that it is maintaining qualification standards, and to maintain and enhance its standing and reputation nationally and internationally.

As to consequences of curricular accounting, like many other things, these can be so far-reaching and open-ended that it is impossible to identify all or even most of them. Much is included in the analysis report about the implementation of curricular accounting taking calculative practices to areas where once there was none, and curricular accounting being used to fulfil various functions, both among UC participants and in transactions and relations outside UC. Curricular accounting has aided, abetted and made possible a variety of changes to not only ways that, among other things, the institution and academic activities are performed, controlled and governed but also how, among other things, university participation, learning, knowledge, skills, qualifications and courses are

regarded by students, academics and other staff, employers and similar parties interested in graduates, and parties with other interests in universities, tertiary education and education generally.

Another contribution is towards the question of whether the calculative practices, processes, records and associated means of measuring, recording and reporting university-student learning that are analysed in the paper represent new accounting practices; and if they do, so a further contribution is to add more about how curricular accounting functions at UC, and possibly elsewhere. These are important because of what is known about accounting generally. On the matter of further research, this would be warranted into whether that knowledge can be applied to these means, including their roles and consequences in the social and institutional transformations that have occurred in higher education, alongside the same in public services and in organisations and society generally. There seem many possibilities for functional, interpretative and critical studies, from both accounting standpoints and standpoints that entail multidisciplinary studies involving accounting.

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10	Doctorates
9	Masters
8	Postgraduate Diplomas and Certificates, Bachelors with Honours
7	Bachelors Degrees, Graduate Diplomas
6	Diplomas
5	
4	Certificates
3	
2	
1	

Figure 1 New Zealand National Qualifications Framework (Source: NZQA, 2007; UC, 2007)

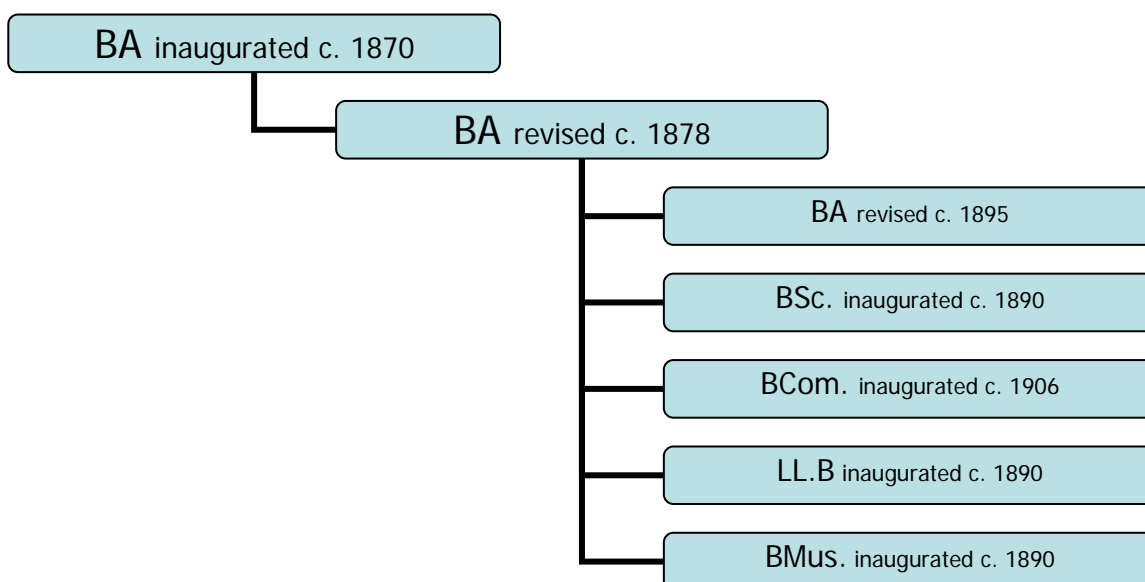


Figure 2 The Branching Out of Bachelor-level Qualifications between the 1870s and 1900s

